The Builder Pattern

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Overview

Classification: Creational

Separates construction of an object ...

... from its representation

Encapsulate object construction

Multistep construction process

Implementations can vary

Client sees only the abstraction

Demo

Motivating Example:

- Custom computer builder
- Can be many components
- That can lead to bad design choices

Demo

Computer builder take 2
- Exposing the attributes

Demo

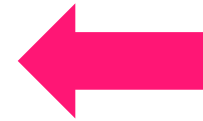**Computer builder take 3**

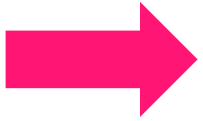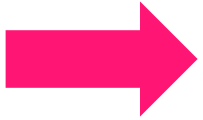– Encapsulating the attributes

Demo

Computer builder take 4

– Enforcing build order

Builder Pattern Structure

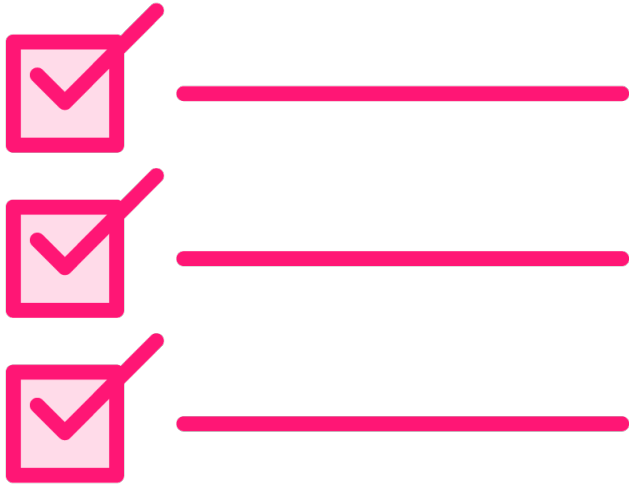# Demo

Implementing the Builder Pattern

Problems solved:

Too many parameters

Exposing attributes to client

Encapsulated the attributes

Enforced assembly order

Separated assembly from the components

Summary

Separates the "How" from the "What"

Assembly separate from components

Encapsulates what varies

Permits different representations

Client creates Director object

Director uses concrete builder

Builder adds parts to the product

Client receives the product from builder